



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

of the genus. Even the author himself shows the fallacy by his drawings, by a statement at bottom of page 377, by his omission of other spore forms in describing the several species, and in his ability to include a species which had not before been assigned to the genus without having seen other than uredinio-spores. The attempt to base modern procedure on antiquated and discredited ideas, which this instance well illustrates, accounts for the unfortunate rule of the Brussels Congress throwing out all names for priority not applied to the telial stage. It is this rule which the author is trying to follow.

There is much to be commended in the author's attempt to bring together so-called species which might more properly be considered races or varieties. His nomenclatorial method of using a collective name and description under which constituents are maintained as if autonomous is, however, contrary to De Candolle's fundamental law of nomenclature that a plant can only bear one name of the same grade, a law that has been upheld by every botanical congress since its enunciation in 1813. If *Puccinia Digraphidis*, *P. Orchidearum-Phalaridis*, *P. Winteriana* and *P. Phalaridis* are to be grouped as biological races under *Puccinia sessilis*, which seems quite correct, the nomenclature should be adjusted accordingly. We hope with the author that some one may be found with "more knowledge, or more courage," as he says in the preface, to carry this process to other forms.

It requires both more knowledge and more courage to advance the lines of classification beyond familiar grounds than most authors are willing to incorporate in their works. To illustrate from the work before us: On pages 73-75 the author technically describes the five families of the order *Uredinales* and gives a key to the twenty-two genera into which the British species may be distributed, using the now generally accepted succession beginning with the fern rusts and ending with *Uromyces* and *Puccinia*, but in the systematic part of the volume the order is reversed to accord with the old and more familiar way. If the makers of manuals will not incorporate what they

believe to be the best knowledge available, how can the general student get a working familiarity with it? Too great conservatism is as injurious to the diffusion of substantial information as too pronounced radicalism.

The author deplores the lack of a suitable way to subdivide the genus *Puccinia* with its enormous number of species, "more than 1,300 are already known." After discarding Schröter's and Fischer's classifications because they "separate nearly allied species," he says "Arthur's is a pathless chaos," and decides to arrange the species according to hosts, instead of introducing a "new imperfect scheme." It is evident that the author did not master the classification proposed by the writer, which is founded upon the combination of life histories and morphological characters. That classification can justly be called imperfect, but not artificial, and by no manner of means chaotic. It is imperfect because more information is demanded than was available when it was proposed, and must be emended and changed to accord with knowledge as it comes to hand, as likely to occur in the establishment of a natural system of any group of plants.

The author has not indicated whether the spore-forms which he describes under each species are all the spore-forms belonging to the species, or not, and without such information species can not be distributed in the Arthur system. How to ascertain this important item was pointed out by the writer in 1904. *Puccinia bullata*, for instance, is credited with pycnia, uredinia and telia, but no mention is made of aecia, and *Puccinia Calthae* has pycnia, aecia and telia described, but no uredinia. About one half the species in the book are thus lacking in definite information. It is no wonder the author saw in the Arthur system only "a pathless chaos."

J. C. ARTHUR

PURDUE UNIVERSITY,
LAFAYETTE, INDIANA

Textbook on Wireless Telegraphy. By RUPERT STANLEY, Professor of Physics and Electrical Engineering, Municipal Technical

Institute, Belfast. Longmans, Green & Co. Pp. 344. 201 illustrations. \$2.25 net.

It is seldom that a reviewer has the privilege of examining a book which so well accomplishes its purposes as does this elementary text on radio telegraphy. The author states in the preface that his book is designed to fill the needs of those students who, with practically no previous knowledge of electric circuits, desire to become acquainted with the simple theory of wireless telegraphy and with the various pieces of apparatus at present used in radio work. There is surely no text on the market to-day which fills the needs of such students as well as does Professor Stanley's book.

The subject-matter is all useful, live material and is strictly up to date. The historical development of the subject is given only sufficient space to make the student realize the sequence in which the different pieces of apparatus and circuits appeared in the art. Many texts devote a deal of space to detailed descriptions of the early experiments, but this text is fortunately entirely free from such irrelevant material.

The first five chapters deal with general concepts of magnetism and electricity and introduce the reader to the modern idea of the electric current being motion of electrons. Next follows a chapter on measurements and calculations of series and parallel circuits, voltage, current, power, etc. The material of this chapter is well illustrated by problems worked out in the text. Three chapters are devoted to inductance, capacity and oscillatory discharges, with methods of producing them.

Chapter X., on "How Ether Waves are Propagated and Received," deals with a very difficult subject but the author has treated it exceptionally well, bringing into his discussion, day and night effects, effect of water and dry land, etc., and illustrating his explanations by experimental data.

There are six chapters devoted to the various circuits and pieces of apparatus used in sending and receiving stations where the so-called "damped wave system" or spark system is used and one chapter on the generating and

receiving apparatus used in systems using continuous waves. A short discussion on miscellaneous apparatus, such as direction finders, amplifiers, galvanometers, hot-wire meters, etc., is followed by the last chapter of the book in which various measurements of radio circuits and apparatus are described.

Four short appendices are devoted to the standard code, call letters of British stations, extracts from international radio regulations and the system of time signals and weather reports sent out from Eiffel Tower. Questions added at the end of each chapter increase the value of the book as a text.

The paper on which the book is printed is not suitable for fine half tones and these are rather disappointing, but to offset this defect the diagrams of circuits and connections are exceptionally well executed. They show thought and skill on the part of the one who designed them. There are minor errors, such as appear in Figs. 38, 43 and 45, but for a first edition the number of errors is very small. The author and publishers deserve much praise from those interested in radio work for putting out this commendable text.

J. H. M.

BOTANICAL NOTES

SOME CORRECTIONS IN REGARD TO TROPICAL LEAVES

DR. SHREVE's paper on "The Direct Effects of Rainfall on Hygrophilous Vegetation"¹ will serve as a corrective for some "casual observation and vivid imagination" in regard to certain adaptational features, in tropical vegetation, especially those pertaining to leaf shapes and structures. His studies were made in the Jamaican forests where the rainfall ranges from 266.7 cm. (100 inches) to 426.7 cm. (170 inches), insuring, with the aid of a generally prevalent fog blanket, an almost continual wetness of the foliage. In these conditions it has generally been assumed that the leaves should have dripping points, velvet surfaces, epiphyllæ and hydathodes. And yet Dr. Shreve found "a very weak representation of such features as the hydathode, the

¹ *Journal of Ecology*, June, 1914.